

**Petition For Revival Of An Application For Patent Abandoned
Unintentionally Under 37 CFR 1.137(b) (Small Entity)**

Docket No.
80204-1302 ADB

In Re Application Of:

David E. Vokey et al

MAR 04 2005

Application No.
09/412,440

Filing Date
October 5, 1999

Examiner
Reena Aurora

Customer No.
23529

Group Art Unit
2862

Confirmation No.
NONE

Invention:

CONSTANT CURRENT TERMINATION FOR CABLE LOCATING TONES

RECEIVED

Attention: Office of Petitions
Mail Stop Petition
COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, VA 22313-1450

MAR 09 2005

OFFICE OF PETITIONS

NOTE: If information or assistance is needed in completing this form, please contact Petitions Information at (703) 305-9282.

The above-identified application became abandoned for failure to file a timely and proper response to a notice or action by the Patent and Trademark Office. The date of abandonment is the day after the expiration date of the period set for reply in the Office notice or action plus any extension of time actually obtained.

APPLICANT HEREBY PETITIONS FOR REVIVAL OF THIS APPLICATION

NOTE: A grantable petition requires the following items:

- (1) Petition fee;
- (2) Reply and/or issue fee;
- (3) Terminal disclaimer with disclaimer fee--required for all utility and plant applications filed before June 8, 1995; and for all design applications; and
- (4) Statement that the entire delay was unintentional.

1. ☒ A proposed reply to the above-identified Office Action:

☒ is enclosed. ☐ was filed on _____

The proposed reply is in the form of: **RESPONSE/AMENDMENT**

2. ☐ The issue fee:

☐ is enclosed. ☐ was paid on _____

3. ☒ Applicant claims small entity status. See 37 CFR 1.27; 03/07/2005 CCHAU1 00000059 09412440

01 FC:2453

750.00 OP

4. ☒ The abandoned application was a:

☐ design application. ☒ utility application. ☐ plant application.

5. ☐ A terminal disclaimer (and fee) disclaiming a period equivalent to the period of abandonment is enclosed.

6. ☐ Since this utility/plant application was filed on or after June 8, 1995, no terminal disclaimer is required.

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Calculation and Payment of Fees

OFFICE OF PETITIONS

Enclosed are the following fees:

7. ☒ Petition fee under 37 CFR 1.17(m) in the amount of: \$750.00
8. ☐ Fee for amendment in the amount of: _____
9. ☐ Fee for extension of time to reply to Office Action in the amount of: _____
10. ☐ Issue fee in the amount of: _____
11. ☐ Continuing application filing fee in the amount of: _____
12. ☐ Terminal disclaimer fee in the amount of: _____
13. ☐ _____

Total fees enclosed: \$750.00

The fee of **\$750** is to be paid as follows:

- ☒ A check in the amount of the fee is enclosed.
- ☐ The Director is hereby authorized to charge any fees which may be required, or credit any overpayment, to Deposit Account No.
- ☐ Payment by credit card. Form PTO-2038 is attached.

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

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Statement

OFFICE OF PETITIONS

The entire delay in filing the required reply from the due date for the required reply until the filing of a grantable petition under 37 CFR 1.137(b) was unintentional.

Signature

**Adrian D. Battison
Registration No: 31,726**

/ll

Dated: **March 3, 2005**

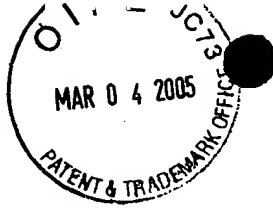
I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to "Mail Stop Petition, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450" [37 CFR 1.8(a)] on

(Date)

Signature of Person Mailing Correspondence

Typed or Printed Name of Person Mailing Correspondence

CC:



THE UNIVERSITY OF MANITOBA

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MAR 09 2005

OFFICE OF PETITIONS

June 13, 2001

Commissioner of Patents and Trademarks
U.S. Department of Commerce
Washington, D.C. 20231

Reference: United States Patent Application 09/412,440
Constant Current Termination for Cable Locating Tones

I have examined the patent application submitted by David E. Vokey et al. A copy of my credential is enclosed for your reference.

The application deals with the design and construction of an effective termination to provide a constant current, at low frequency, on several branches of cables. The current generates a proportional magnetic field that decays with distance. From a detection point of view, a magnetic field sensor measures the response as the voltage induced across the terminals of the sensor. The voltage is proportional to the magnetic field generated by the current. An active device, MOSFET transistor, is a key component of the termination. MOSFET is a non-linear and most significant electronic active device which may act as a current source whose value is controlled by the gate voltage. Another key component of the termination is a full-wave bridge rectifier that provides an electrical isolation between the input ac signal and the active component. Other components in the terminating device provide protection and prevent damage to other components in the circuit.

I believe this is a very interesting approach concerned with obtaining constant current termination. The circuit schematic of the termination invention, as presented in the application, is straightforward. It is easy to follow and appears technically correct and complete for understanding and implementation. The concept sounds good and should work. The components are standard electronics off shelf components. A complete schematic of the terminating circuit including a transmission line simulating a buried cable is constructed using PSpice, the most powerful circuit design aid and industry standard. CAD tool. All the components of the terminating circuit are listed in the part libraries of PSpice.



Numerical simulations using PSpice shows that the termination reacted for different lines conditions. Although the current characterization, for different conditions, obtained with PSpice are similar, they depend on the model used for the transmission line. This is particularly true with respect to the line, for which a generalized model is used because data on specific line is limited.

The characteristic impedance and length of the line control the transmission line model used in PSpice.

The English used in the original application is frequently somewhat awkward, and the application would benefit from the review of a good technical editor. The application would also benefit from the inclusion of component values. I leave it to the discretion of the examiner at the Patent and Trademark Office to decide which of the components' values are optional and which are mandatory.

Truly Yours

A handwritten signature in black ink, appearing to read 'A SEBAK', with a long horizontal flourish extending to the right.

A. Sebak, Ph.D., P.Eng.,
Professor

Abdel Razik Sebak, Ph.D., P.Eng., SM-IEEE

Professor

Applied Electromagnetic Laboratories

Electrical and Computer Engineering Department

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PROFILE:

- Over 25 years of progressive teaching and research experience in electrical engineering field at University of Manitoba and Cairo University, industrial experience at Canadian Marconi Company, and a consultant in applied electromagnetics, antenna design and radio propagation.
- Major Contribution to the training of highly qualified Ph.D., M. Sc. and B.Sc. Students with more than 150 publications.
- Attraction of more than \$4 million in Research and Equipment Funding.
- Member of a Network of Centers of Excellence on Microelectronics Devices, and Vision 2000 Ka Band Active Phased Array Antennas.
- Special Honors include Awards for Outstanding Contributions to Scholarship and Research, Innovation in Teaching, and Leadership Services.
- Curriculum Development and Teaching, with Considerable Success, a Broad Spectrum of both Graduate and Undergraduate Courses with Emphasis on the Use of CAD and Visualization Tools in the Teaching Process.
- Fields in which a specialist include Applied Electromagnetics, Wireless Communications, Computational Techniques, Printed Circuit Antennas, Phased Array Antennas Analysis and Design, Radar, Microwave Imaging, Electromagnetic Compatibility, Scattering and Interference.
- Establishment of New Electromagnetics Computational Laboratory.
- Assisting Industries in the Development of New Products and Establishing New Technologies.
- Numerous Technical, Departmental and University-Level Committee Work and Administrative Positions within the University and Professional Organizations.
- B. Sc. (Electrical Engineering), Cairo University, 1976.
- B. Sc. (Applied Mathematics), Ain Shams University, 1978.
- M. Sc. (Electrical Engineering), University of Manitoba, 1982.
- Ph. D. (Electrical Engineering), University of Manitoba, 1984.